

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (previously presented): An isolated promoter for inducible expression of homologous and heterologous proteins, wherein said promoter consists of SEQ ID NO: 1 or SEQ ID NO: 2, and wherein said promoter is induced by a reduction in temperature.

2. (canceled).

3. (currently amended): A vector comprising the promoter of claim 1, wherein said promoter is linked to a DNA encoding GFP and wherein said promoter expression vector provides maximum expression of GFP in *S. pombe* cells within three hours of when the *S. pombe* cells are subjected to a temperature shift from 36°C to 25°C.

4-8. (canceled).

9. (previously presented): The promoter of claim 1, wherein said promoter is linked to a DNA encoding *cdc-18*.

10-12. (canceled).

13. (currently amended): ~~At least one~~ A vector comprising an isolated promoter for the inducible expression of homologous and heterologous proteins, wherein said vector is selected from the group consisting of the a vector deposited under corresponding to Accession No. MTCC 5106 and the a vector deposited under corresponding to Accession No. MTCC 5107.

14. (canceled).

15. (currently amended): The vector of claim 13, wherein said vector further comprises an open reading frame encoding GFP.

16. (canceled)

17. (currently amended): The vector of claim 13, wherein said vector further comprises an open reading frame encoding β -galactosidase.

18-20. (canceled).

21. (currently amended): The vector of claim 13, wherein said vector further comprises an open reading frame encoding *cdc-18*.

22-24. (canceled).

25. (withdrawn): A process of isolating novel temperature regulated promoters from *Scizosaccharomyces pombe* said process comprising the steps of:

(a) constructing a partial genomic DNA library with restriction enzyme Sau3AI, to obtain partial genomic DNA sequences in the range of about 100 bp to 2000bp,

(b) ligating the genomic DNA library sequences of step (a) with vector pGFP without a promoter

(c) transforming the vector of step (b) to *S. pombe* strain,

(d) screening of *S. pombe* strain containing the promoter library,

(e) isolating and identifying two clones of (step d) by stimulating GFP expression,

(f) using the clones obtained in step (e) to check, repress or express of GFP expression by temperature shift,

(g) sequencing the genomic DNA fragments of (f) as new promoter elements having SEQ ID No. 1 and SEQ ID No.2, designating the promoters as *nmt-185* and *nmt-146*, useful as promoters, and

(h) cloning the said promoter elements into the novel vectors having Accession nos. MTCC 5106 and 5107 respectively.

26. (withdrawn): A process as claimed in claim 25, wherein the step (f) the temperature shifts are 25°C and 37°C.

27. (withdrawn): A process as claimed in claim 25, wherein the promoters have been isolated from *Schizosaccharomyces pombe*.

28. (withdrawn): A process as claimed in claim 25, wherein the sequence of the said promoter element *nmt-185* and *nmt-146* is identical or more than 80% homologous to the sequence of *nmtI*.

29. (withdrawn): A process as claimed in claim 25, wherein the promoter element *nmt-185* and *nmt-146* are repressed in the temperature range of about 33° to 37°C.

30. (withdrawn): A process as claimed in claim 25, wherein the promoter element *nmt-185* and *nmt-147* are expressed in the temperature range of about 22° to 28°C.

31. (withdrawn): A process as claimed in claim 25, wherein the promoter element *nmt-185* is about 185 bases long.

32. (withdrawn): A process as claimed in claim 25, wherein the promoter element *nmt-146* is only 146 bases long.

33. (withdrawn): A process as claimed in claim 25, wherein the promoter elements *nmt-186* and *nmt-145* can express or repress the gene GFP, Streptokinase, b-galactosidase, and *cdc18* gene.

34. (withdrawn): A process as claimed in claim 25, wherein GFP expression of said promoter is about 95% within 3 hrs.

35. (withdrawn): A process as claimed in claim 34, wherein GFP expression of said promoter is about 91.4% within 3 hrs.

36. (withdrawn): A process as claimed in claim 25, wherein said promoter have β -galactosidase activity of about 150 ± 20 units within 3 hrs of induction.

37. (withdrawn): A process as claimed in claim 36, wherein said promoter have β -galactosidase activity of about 124 ± 20 units within 3 hrs of induction.

38. (withdrawn): A process as claimed in claim 25, wherein said promoter have maximum specific activity of about 900 I.U/mg in 3 hrs.

39. (withdrawn): A process as claimed in claim 38, wherein said promoters have maximum specific activity of about 870 ± 16 I.U/mg in 3 hrs.

40. (withdrawn): A process as claimed in claim 25, wherein said promoters enhance expression of *cdc-18* gene within 3 hrs of induction.

41. (withdrawn): A process as claimed in claim 25, wherein said promoters give lower leaky expression of proteins.

42. (withdrawn): A process as claimed in claim 25, wherein said promoters are not deleterious to the cell viability.

43. (withdrawn): A process as claimed in claim 25, wherein said promoters reduce the level of proteolytic degradation.

44. (withdrawn): A process of preparing novel expression vectors based temperature regulated novel promoter elements isolated from *Scizosaccharomyces pombe* said process comprising steps of:

- (a) constructing a partial genomic DNA library with restriction enzyme Sau3AI, to obtain partial genomic DNA sequences in the range of about 100 bp to 2000bp,
- (b) ligating the genomic DNA library sequences of step (a) with vector pGFP without a promoter
- (c) transforming the vector of step (b) to *S. pombe* strain,
- (d) screening of *S. pombe* strain containing the promoter library,
- (e) isolating and identifying two clones of (step d) by stimulating GFP expression,
- (f) using the clones obtained in step (e) to check repress or express of GFP expression by temperature shift,
- (g) sequencing the genomic DNA fragments of (f) as new promoter elements of 185 bases having SEQ ID No.1 and 146 bases having SEQ ID No.2, designated as *nmt-185* and *nmt-146* respectively, and
- (h) cloning the said promoter elements into the novel vectors having Accession vector nos. *MTCC* 5106 and 5107 respectively.

45. (withdrawn): A process as claimed in claim 44, wherein the step (f) the temperature shifts are 25°C and 37°C.

46. (withdrawn): A process as claimed in claim 44, wherein the promoters have been isolated from *Schizosaccharomyces pombe*.

47. (withdrawn): A process as claimed in claim 44, wherein the sequence of the said promoter element *nmt-185* and *nmt-146* is identical or more than 80% homologous to the sequence of *nmtI*.

48. (withdrawn): A process as claimed in claim 44, wherein the promoter element *nmt-185* and *nmt-146* are repressed in the temperature range of about 33° to 37°C.

49. (withdrawn): A process as claimed in claim 44, wherein the promoter element *nmt-185* and *nmt-147* are expressed in the temperature range of about 22° to 28°C.

50. (withdrawn): A process as claimed in claim 44, wherein the promoter element *nmt-185* is about 185 bases long.

51. (withdrawn): A process as claimed in claim 44, wherein the promoter element *nmt-146* is only 146 bases long.

52. (withdrawn): A process as claimed in claim 44, wherein the promoter elements *nmt-186* and *nmt-145* can express or repress the genes GFP, Streptokinase, P-galactosidase and *cdc18* gene.

53. (withdrawn): A process as claimed in claim 44, wherein said vectors have GFP activity of about 95 % within 3 hrs.

54. (withdrawn): A process as claimed in claim 53, wherein said vectors have GFP activity of about 91.4 % within 3 hrs.

55. (withdrawn): A process as claimed in claim 44, wherein said vectors have β -galactosidase activity of about 150 ± 20 units within 3 hrs of induction.

56. (withdrawn): A process as claimed in claim 55, wherein said vectors have β -galactosidase activity of about 124.3 ± 20 units within 3 hrs of induction.

57. (withdrawn): A process as claimed in claim 44, wherein said vectors have maximum specific activity of about 900 I.U./mg in 3 hrs.

58. (withdrawn): A process as claimed in claim 57, wherein said vectors have maximum specific activity of about 870 ± 16 I.U./mg in 3 hrs.

59. (withdrawn): A process as claimed in claim 44, process as claimed in claim 24, wherein said vectors enhance expression of *cdc-18* gene within 3 hrs of induction.

60. (withdrawn): A process as claimed in claim 59, wherein said vectors give lower leaky expression of proteins.

61. (withdrawn): A process as claimed in claim 44, wherein said vectors are not deleterious to the cell viability.

62. (withdrawn): A process as claimed in claim 44, wherein said vectors reduce the level of proteolytic degradation.

63. (withdrawn): A method for inducing the synthesis of a homologous or heterologous protein, comprising incubating a transformant transformed with a DNA comprising the promoter of claim 1 operably linked to a gene encoding said homologous or heterologous protein at 25°C for about 3 hours.

64. (withdrawn): A method for inducing the synthesis of a homologous or heterologous protein, comprising incubating a transformant transformed with the vector of claim 13 containing a gene encoding said homologous or heterologous protein at 25°C for about 3 hours.

65. (withdrawn): The method of claim 63 or 64, wherein said transformant is a yeast cell.

66. (currently amended): The promoter of claim 1 wherein said promoter is linked to a DNA encoding β -galactosidase, and wherein said promoter provides maximum expression of β -galactosidase in *S. pombe* cells within three hours of when the *S. pombe* cells are subjected to a temperature shift from 36°C to 25°C.

67. (currently amended): The promoter of claim 1 wherein said promoter is linked to a DNA encoding *cdc18*, and wherein said promoter provides maximum expression of

cdc18 in culture cells within three hours of when the *S. pombe* cells are subjected to a
temperature shift from 36°C to 25°C.

68. (currently amended): The promoter of claim 1 wherein said promoter is linked to a DNA encoding streptokinase, and wherein said promoter provides maximum expression of streptokinase in culture cells within three hours of when the *S. pombe* cells are subjected to a temperature shift from 36°C to 25°C.

69. (previously presented): The vector of claim 13, wherein said vector contains an open reading frame encoding streptokinase.